

CLAIMS:

1. A method for making a supported olefin polymerisation catalyst including the steps of:
 - (a) forming a solid support using a chiral agent by:
 - (i) adding a chiral agent to a solution of a support; and
 - (ii) crystallising the support from the solution to form a support crystal lattice, whereby the presence of the chiral agent favours the formation of crystal faces of the support crystal lattice in step (a), which faces are modified with respect to orientation and;
 - (b) immobilising a catalyst or pre-catalyst thereof on the modified crystal faces, and optionally activating the pre -catalyst, to form a support, wherein the catalyst is an olefin polymerisation catalyst.
2. The method according to claim 1, wherein step (a) includes a step of removing the chiral agent after forming the support crystal lattice.
3. The method according to claim 1 or claim 2 wherein the chiral agent is an organic chiral agent.
4. The method according to claim 3, wherein the organic chiral agent is an amino acid.
5. The method according to any one of the preceding claims, wherein the chiral agent is added in step (a) until the solution is saturated.
6. The method according to any one of the preceding claims, wherein the chiral agent is added at a temperature in the range of from 25 to 100°C.
7. The method according to any one of the preceding claims, wherein the chiral agent is added to a solution containing 1 to 10 mole/L of a support.

8. The method according to any one of the preceding claims, wherein the support crystal lattice has an increased number of chiral or pro-chiral crystal faces.
9. The method according to any one of the preceding claims, wherein the support is inorganic.
10. The method according to any one of the preceding claims, wherein the catalyst has an increased number of chiral exposed active sites.
11. The method according to any one of the preceding claims, wherein the catalyst is a Ziegler-Natta catalyst.
12. The method according to any one of claims 1 to 10, wherein the catalyst is a metallocene or new single site catalyst.
13. The method according to claim 11 or claim 12, wherein the catalyst is a stereospecific catalyst.
14. The method according to any one of claims 11 to 13, wherein the support crystal lattice acts as a ligand to the active sites of the catalyst.
15. A method for producing a polyolefin, which method comprises polymerising an olefin monomer in the presence of a support as defined in any one of claims 1 to 14.
16. A method according to claim 15, wherein the olefin monomer is propylene or ethylene.
17. Use of a chiral agent as defined in any one of claims 1 to 4, for the purpose of controlling the orientation of the crystal faces of the crystal lattice of a solid support for an olefin polymerisation catalyst.